

Kansas State University Quarknet Center, 2011-2012 Annual Report

The K-State group held two workshops in the last fiscal year. On November 11, 2011 we held a workshop at the Ft. Hays State University physics department in Hays, KS. This location was chosen to allow teachers in the remote western part of the state to more easily experience Quarknet. Eight teachers attended the session, which focused on hands-on activities using the K-State produced Visual Quantum Mechanics kit. The teachers were all provided kits to take back to their home schools for classroom use. Our next planned event was to involve participation in the Quarknet Master Class program in spring 2012. However, as the date drew near, we realized that our small school teachers simply lacked the experience to perform the pre-class exercises required of Master Class. We decide to postpone this event for a year and ask Quarknet to support a dedicated Master Class training workshop for teachers in summer 2012. The response by Ken Cecire was very positive, and Quarknet fellow Shane Wood agreed to come to Kansas State to lead the workshop. Eleven teachers participated in this very successful event held July 20-21, 2012.

On other fronts, KSU Quarknet teachers continued to avail themselves of national Quarknet and other HEP-related opportunities seeded by Quarknet. Christine Herald (Eisenhower MS, Manhattan) and Richard Robinson (Palco HS, Palco) participated in the 2012 Quarknet Boot Camp at Fermilab. Kansas State Quarknet alumnus Martin Shaffer (Cowley County CC, Arkansas City) continued work with Bob Peterson on the Quarknet cosmic ray e-lab; Shaffer and Peterson presented some of their work on e-lab at a conference in China in July 2012. K-State Quarknet mentor Tim Bolton visited the classroom of lead teacher Gail Anne Aurand (Pike Valley HS, Courtland) on May 8, 2012. Finally, K-State Quarknet teachers Gail Anne Aurand (Pike Valley HS, Courtland) and Penny Blue (Lyons HS, Lyons) gave presentations on Quarknet at the Kansas Association of Teachers of Science annual meeting (“KATS camp”), held April 20-22, 2012.

The KSU group remains strong in its ninth year of existence. Approximately 24 teachers participate, a core group of six or so regularly, and the rest at the rate of once every other meeting. We continue to specialize in serving small rural high schools throughout the state. The K-State mentor up to now has been Tim Bolton, but he is stepping aside for a two-year appointment with the Department of Energy. Bharat Ratra will assume the mentor position in Bolton’s absence, with assistance from other members of the KSU HEP group (Glenn Horton-Smith, Andrew Ivanov, and Yurii Maravin), and the KSU physics education research group (Sanjay Rebello and Dean Zollman). Plans for 2012-2013 include a fall workshop devoted to particle astrophysics and cosmology and participation in Master Class in spring 2013.